

RECEIVED  
CENTRAL FAX CENTER

004/009

AUG 14 2006

DOCKET NO. 4752-009

**DECLARATION AND POWER OF ATTORNEY**

As a below-named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled: **OPTICAL PULSE COMPRESSOR, OPTICAL FUNCTION GENERATOR, OPTICAL PULSE COMPRESSION METHOD, AND OPTICAL FUNCTION GENERATION METHOD**

the specification of which is attached hereto unless one of the following boxes is checked:

was filed on October 14, 2005 as U.S. Patent Application No. 10/553,649  
 was filed on \_\_\_\_\_ as International Application (PCT) No. \_\_\_\_\_, and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose all information which is material to the examination of this application in accordance with *Title 37, Code of Federal Regulations, § 1.56*. I hereby claim foreign priority benefits under *Title 35, United States Code § 119* of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which the priority is claimed.

**PRIOR FOREIGN APPLICATION(S)**

NUMBER	COUNTRY	DAY/MONTH/YEAR FILED	PRIORITY CLAIMED
PCT/JP2004/003937	WIPO	March 23, 2004	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2003-109708	JP	April 15, 2003	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

I hereby claim the benefit under *Title 35, United States Code, § 120* of any United States application(s) or PCT international application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of *Title 35, United States Code, § 112*, I acknowledge the duty to disclose material information as defined in *Title 37, Code of Federal Regulations, § 1.56* which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

APPLICATION NUMBER	FILING DATE	STATUS (Patented, Pending or Abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under *Section 1001 of Title 18 of the United States Code*, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**POWER OF ATTORNEY:** I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: Allan M. Lowe, Registration Number 19,641; Benjamin J. Hauptman, Registration Number 29,310; Kenneth M. Berner, Registration Number 37,093; James J. Bindseil, Registration Number 42,326; Randy A. Noranbrock, Registration Number 42,940 and William E. Beaumont Registration Number 30,996; Raymond J. Ho, Registration No. 41,838; Cameron H. Tousi, Registration No. 43,197.

Send correspondence to: **LOWE HAUPTMAN & BERNER, LLP**  
**CUSTOMER NO. 22429**  
1700 Diagonal Road, Suite 300  
Alexandria, Virginia 22314

TELEPHONE CALLS TO:  
**Kenneth M. Berner**  
(703) 684-1111

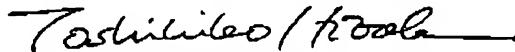
I hereby authorize the U.S. attorneys and agents named herein to accept and follow instructions from **HASHIZUME & ASSOCIATES** to any actions to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and the undersigned. In the event of a change in the person(s) from whom instructions may be taken, the U.S. attorneys will be so notified by the undersigned.

See following page(s) for additional joint inventors.

Full name of sole or first inventor: <b>Masataka NAKAZAWA</b>
Inventor's signature: 
Date: <u>Nov. 22, 2005</u>
Residence: <b>3-2-13, Kunimigaoka, Aoba-ku, Sendai-shi, Miyagi 989-3201 Japan</b>
Citizenship: <b>Japan</b>
Post Office Address: <b>3-2-13, Kunimigaoka, Aoba-ku, Sendai-shi, Miyagi 989-3201 Japan</b>

DOCKET NO. 4752-009

Full Name of Second Inventor: <b>Toshihiko HIROOKA</b>
--

Inventor's signature: 	Date: <i>Nov. 22, 2005</i>
---	----------------------------

Residence: 2-3-501, Renbokoji, Wakabayashi-ku, Sendai-shi, Miyagi 984-0053 Japan
--

Citizenship: Japan
--------------------

Post Office Address: 2-3-501, Renbokoji, Wakabayashi-ku, Sendai-shi, Miyagi 984-0053 Japan
--

Full Name of Third Inventor:
------------------------------

Inventor's signature:	Date:
-----------------------	-------

Residence:
------------

Citizenship:
--------------

Post Office Address:
----------------------

Full Name of Fourth Inventor:
-------------------------------

Inventor's signature:	Date:
-----------------------	-------

Residence:
------------

Citizenship:
--------------

Post Office Address:
----------------------

Full Name of Fifth Inventor:
------------------------------

Inventor's signature:	Date:
-----------------------	-------

Residence:
------------

Citizenship:
--------------

Post Office Address:
----------------------

## PATENT COOPERATION TREATY

PCT/JP2004/003937

From the INTERNATIONAL BUREAU

## PCT

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II)  
OF THE PATENT COOPERATION TREATY  
(PCT Rules 44bis.3(c) and 72.2)

Date of mailing (day/month/year)  
17 November 2005 (17.11.2005)

To:

HASHIZUME, Takeshi  
13-17, Ginza 3-chome,  
Chuo-ku, Tokyo 104-0061  
JAPON

Applicant's or agent's file reference  
P0697PC

## IMPORTANT NOTIFICATION

International application No.  
PCT/JP2004/003937

International filing date (day/month/year)  
23 March 2004 (23.03.2004)

Applicant

JAPAN SCIENCE AND TECHNOLOGY AGENCY et al

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

EP, KR

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Yoshiko Kuwahara

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 90 90

## PATENT COOPERATION TREATY

PCT/JP2004/003937

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P0697PC	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/JP2004/003937	International filing date (day/month/year) 23 March 2004 (23.03.2004)	Priority date (day/month/year) 15 April 2003 (15.04.2003)	
International Patent Classification (IPC) or national classification and IPC G02F 1/01			
Applicant JAPAN SCIENCE AND TECHNOLOGY AGENCY			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>11</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>
---

Date of submission of the demand 14 February 2005 (14.02.2005)	Date of completion of this report 18 May 2005 (18.05.2005)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/JP2004/003937

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:

international search (under Rules 12.3 and 23.1(b))  
 publication of the international application (under Rule 12.4)  
 International preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

The international application as originally filed/furnished

the description:

pages \_\_\_\_\_ 1-22 \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ 2,4,7,9,10,13 \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages\* \_\_\_\_\_ 1,3,5,6,8,11,12,14,15 \_\_\_\_\_ received by this Authority on 14 February 2005 (14.02.2005)  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages \_\_\_\_\_ 1-7,10 \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ 8,9 \_\_\_\_\_ received by this Authority on 14 February 2005 (14.02.2005)  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP04/003937

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement****Novelty (N)**

Claims

1-15

YES

Claims

NO

**Inventive step (IS)**

Claims

1-15

YES

Claims

NO

**Industrial applicability (IA)**

Claims

1-15

YES

Claims

NO

**2. Citations and explanations (Rule 70.7)**

The subject matters of claims 1-15 appear to involve an inventive step over the documents cited in the ISR.

The documents cited in the ISR do not describe that, with an optical filter and an optical phase-modulator inserted before an optical Fourier transformation device having a dispersive medium, optical pulses of temporal waveforms according to the frequency characteristics of the optical filter are generated by the optical Fourier transformation device, whereby the compression of optical pulses and the generation of optical functions are performed.

**Documents:**

Document 1: JP, 9-61765, A (Hitachi, Ltd.), 7 March, 1997 (07.03.97)

Document 2: JP, 11-112425, A (Nippon Telegraph and Telephone Corp.), 23 April, 1999 (23.04.99)

Document 3: Time-Domain Fourier Optics for Polarization-Mode Dispersion Compensation, (M. Romagnoli, et al.), Optics Letters, September 1999, Vol. 24, No. 17, pages 1197-1199

Document 4: Timing Jitter Eater for Optical Pulse Trains, (A. Leaf, et al.), Optics Letters, January 2003, Vol. 28, No. 2, pages 78-80